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PATENT & TRADEMARK OFFICE

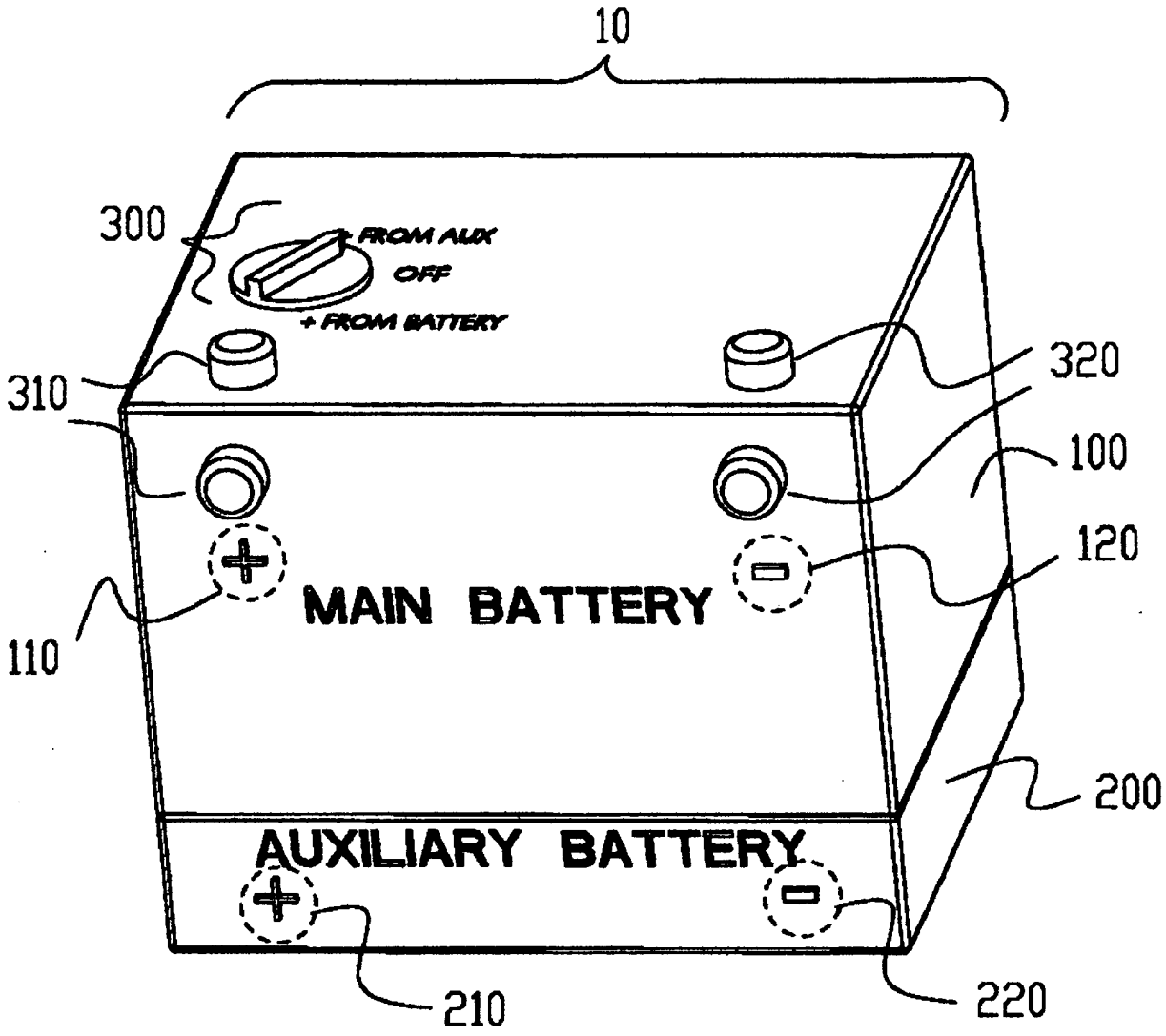


Fig. 1

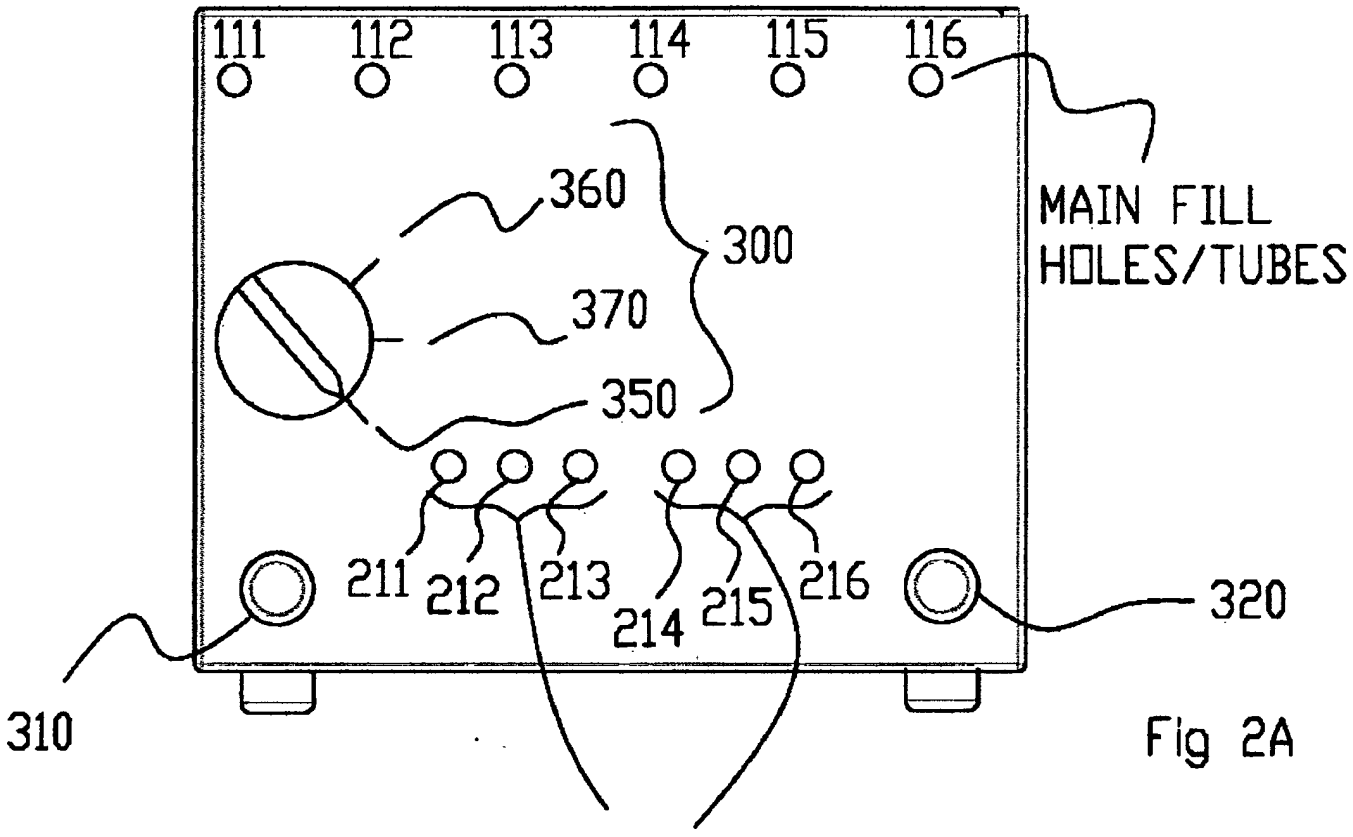

111
112
113
114
115
116
MAIN FILL
HOLES/TUBES
360
300
370
350
211
212
213
214
215
216
320
310
AUXILIARY FILL
HOLES / TUBES

Fig 2A

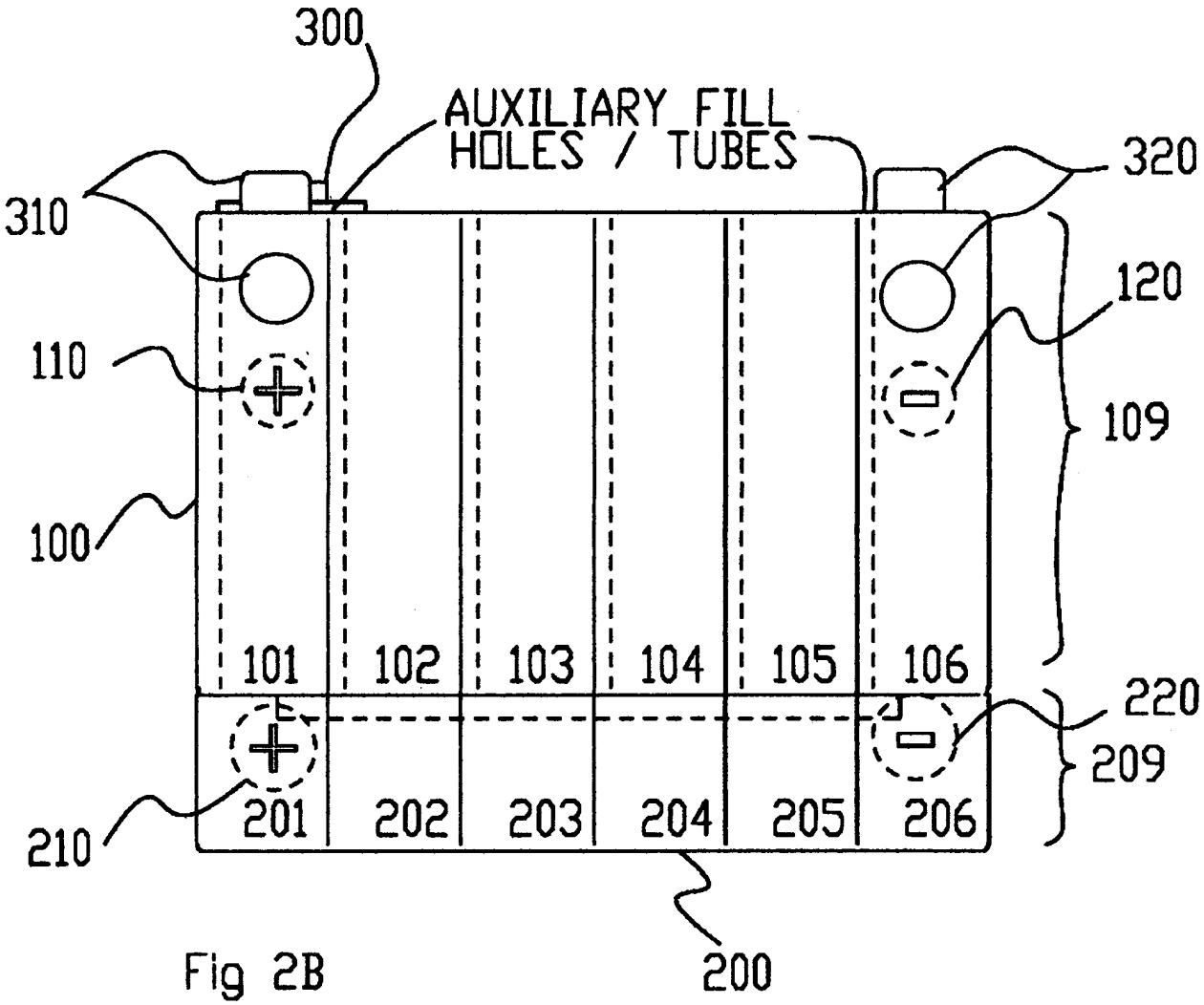

300
AUXILIARY FILL
HOLES / TUBES
320
310
120
110
109
100
101
102
103
104
105
106
220
209
201
202
203
204
205
206
210
200

Fig 2B

RUNING FROM MAIN BATTERY

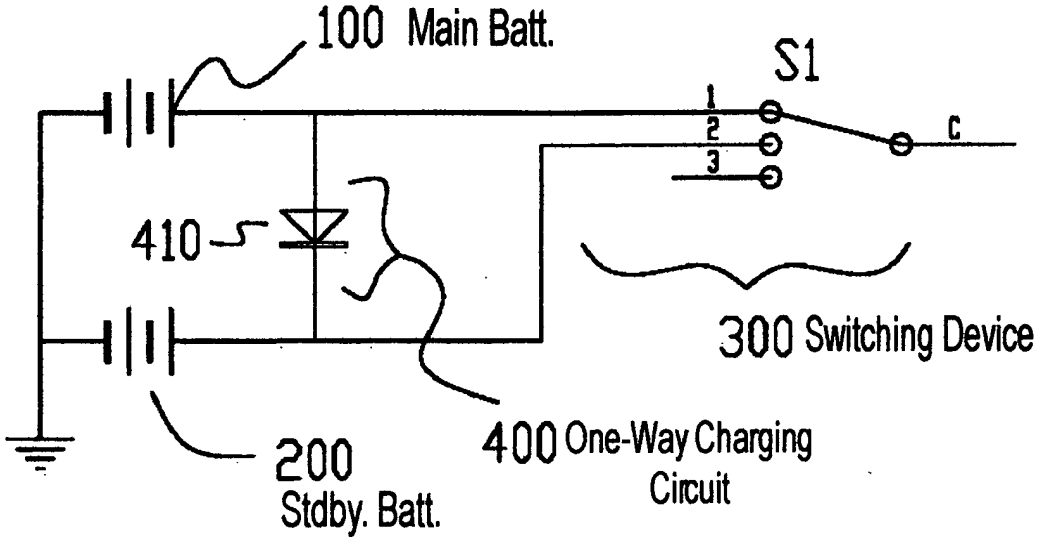


Fig 3B

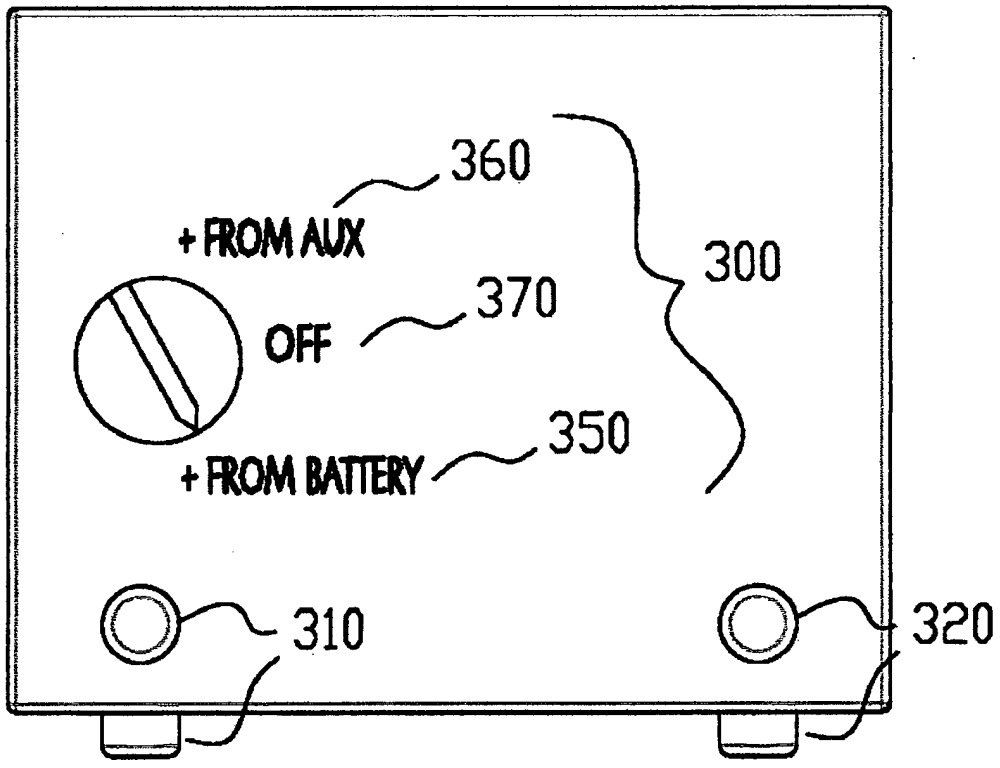


Fig 3A

RUNNING FROM AUXILIARY BATTERY

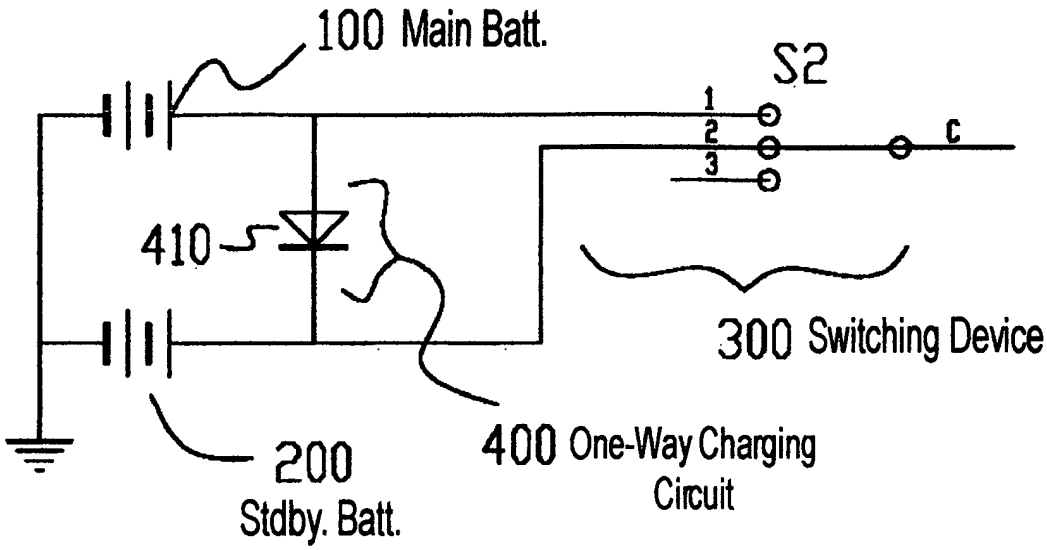


Fig 4B

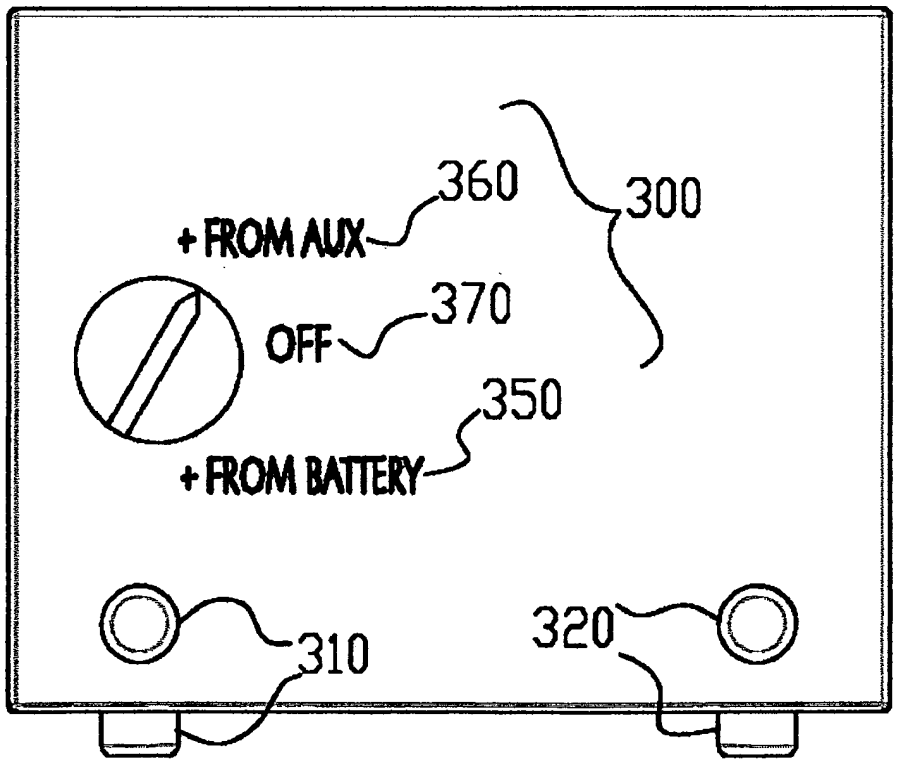


Fig. 4A

OFF NO BATTERY CONNECTED

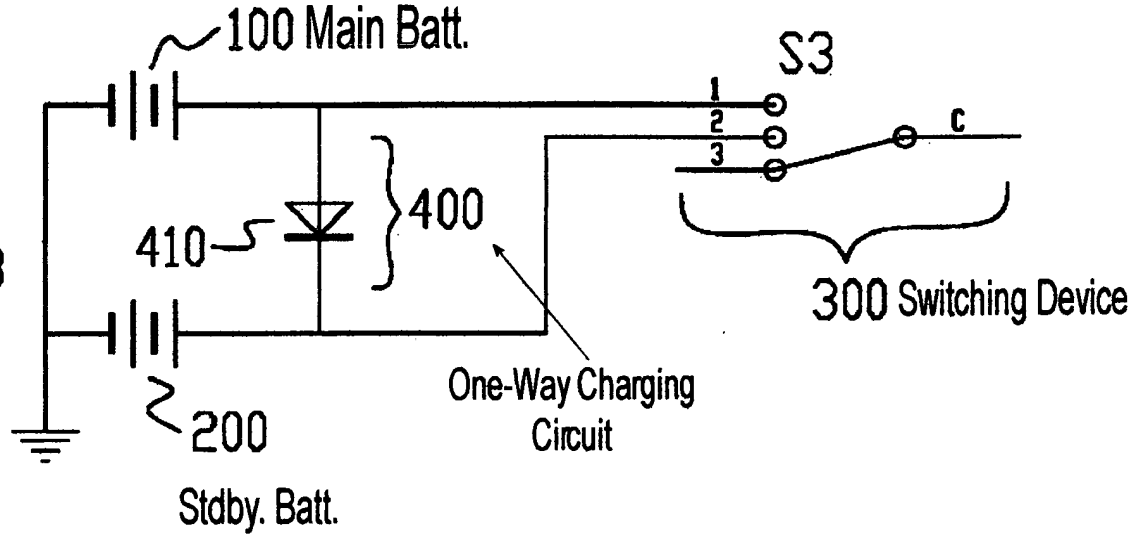


Fig 5B

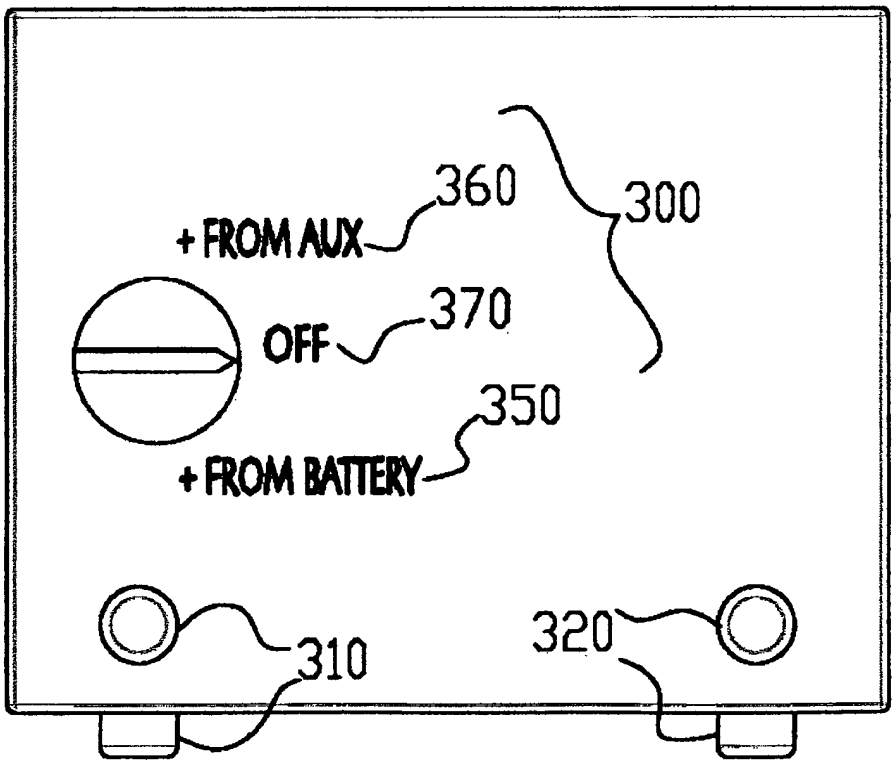


Fig. 5A

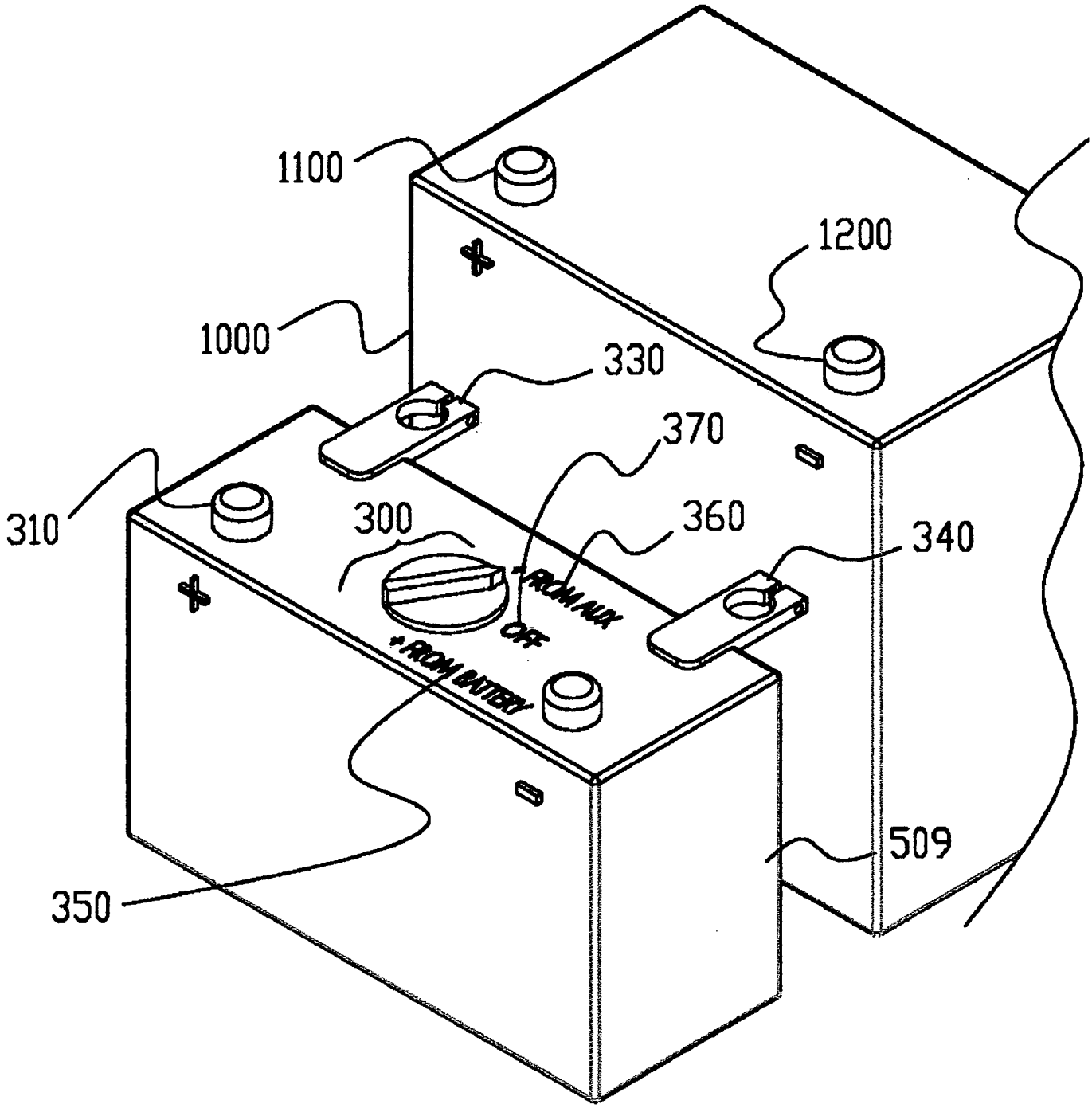

1100
1200
1000
330
370
310
300
360
340
+ FROM AUX
OFF
+ FROM BATTERY
509
350

Fig. 6

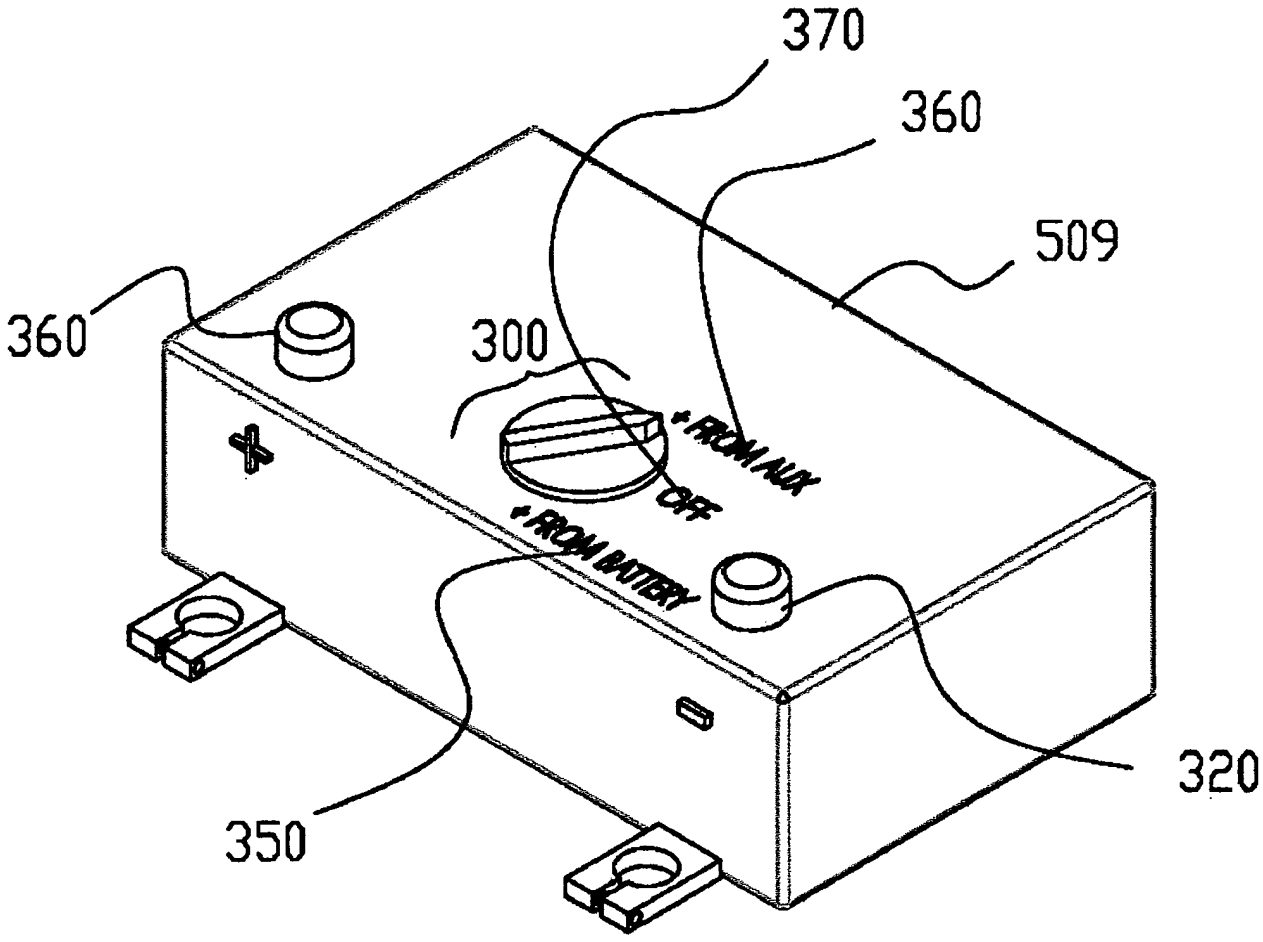


Fig 7

FIG 8A

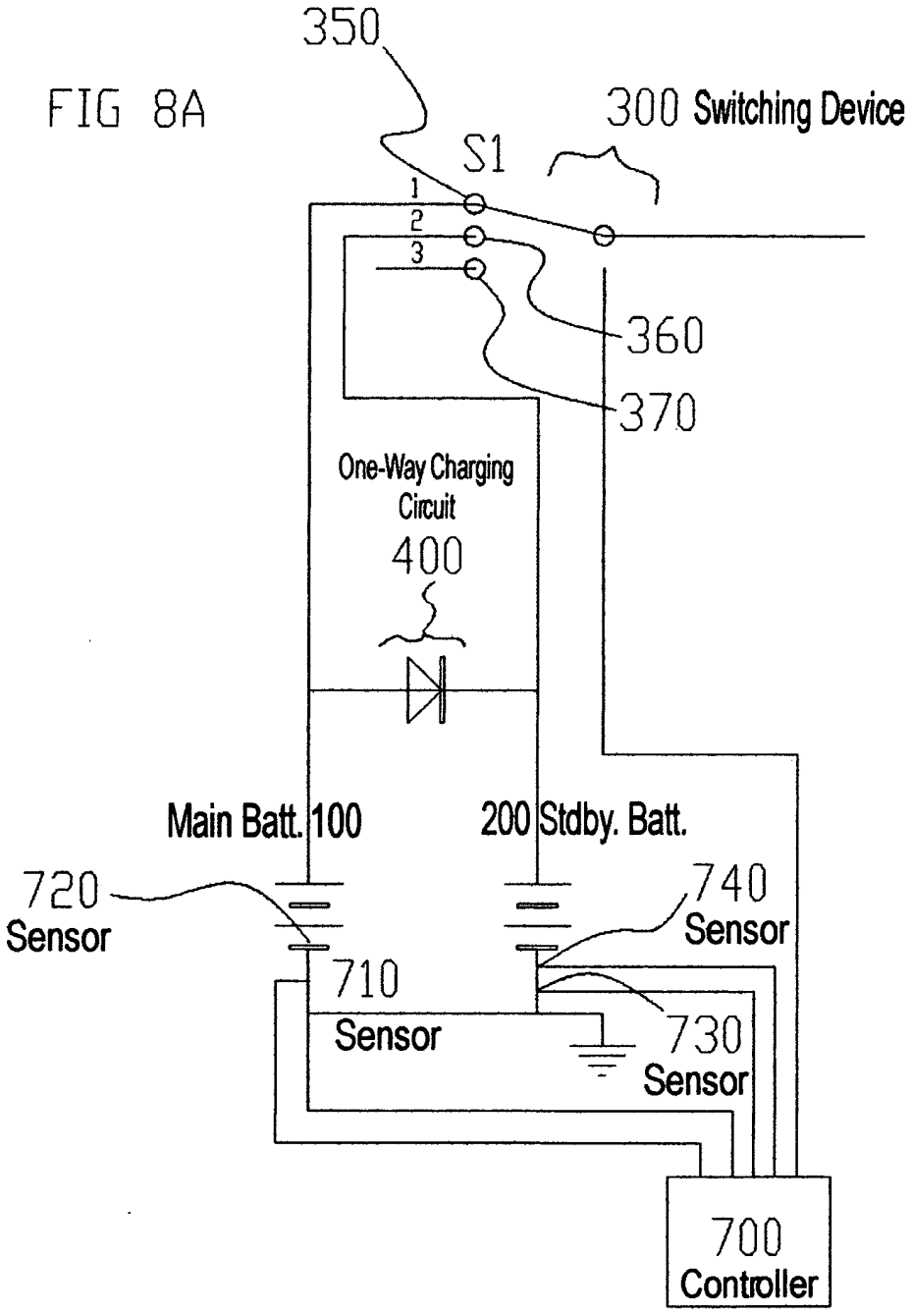

350
300 Switching Device
S1
1
2
3
360
370
One-Way Charging Circuit
400
Main Batt. 100
200 Stdby. Batt.
720
Sensor
740
Sensor
710
Sensor
730
Sensor
700
Controller

FIG 8B

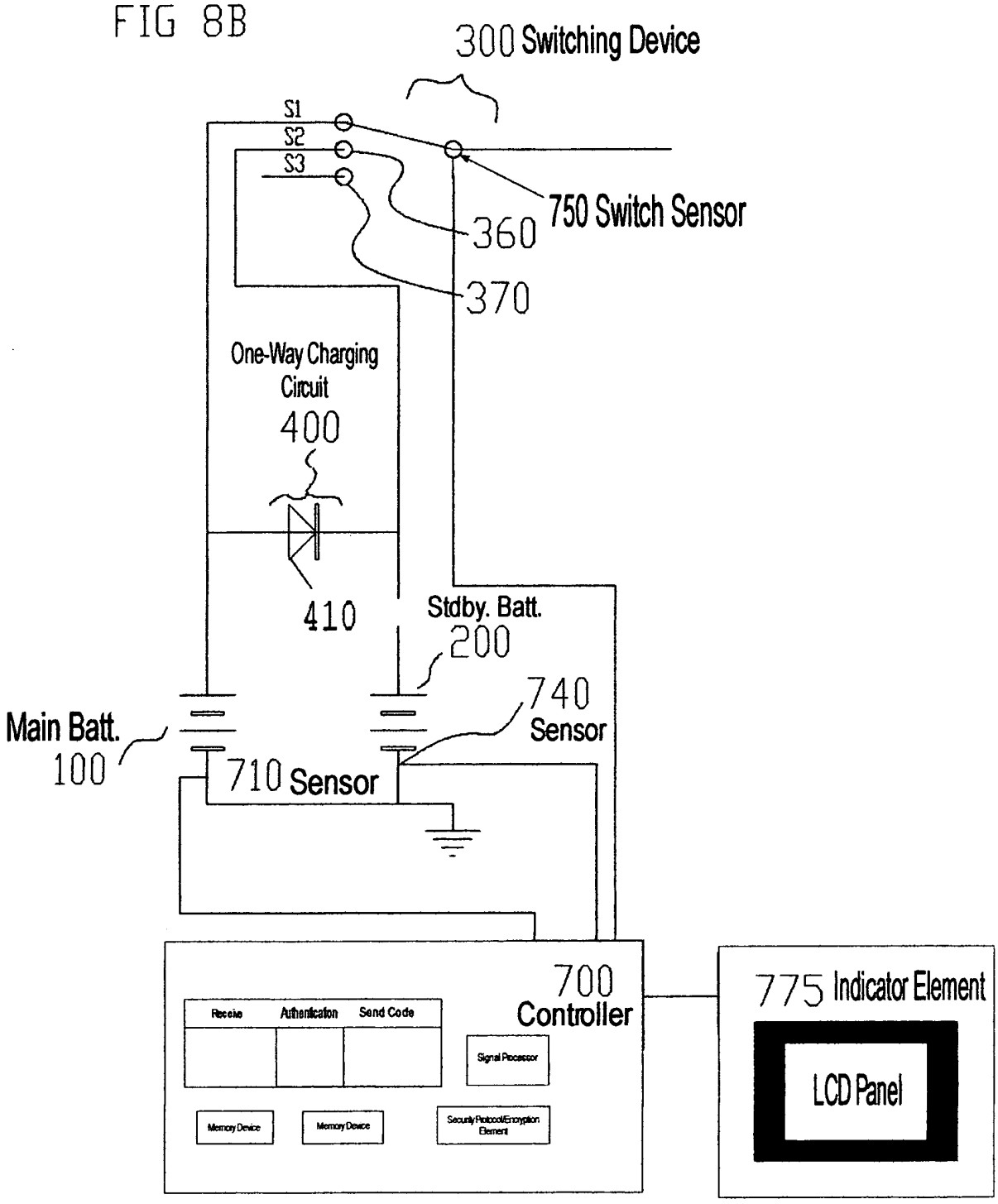

300 Switching Device
S1
S2
S3
750 Switch Sensor
360
370
One-Way Charging Circuit
400
410
Stdby. Batt.
200
740 Sensor
Main Batt.
100
710 Sensor
700 Controller
Receive
Authentication
Send Code
Signal Processor
Memory Device
Memory Device
Security Protocol/Encryption Element
775 Indicator Element
LCD Panel

FIG 8C

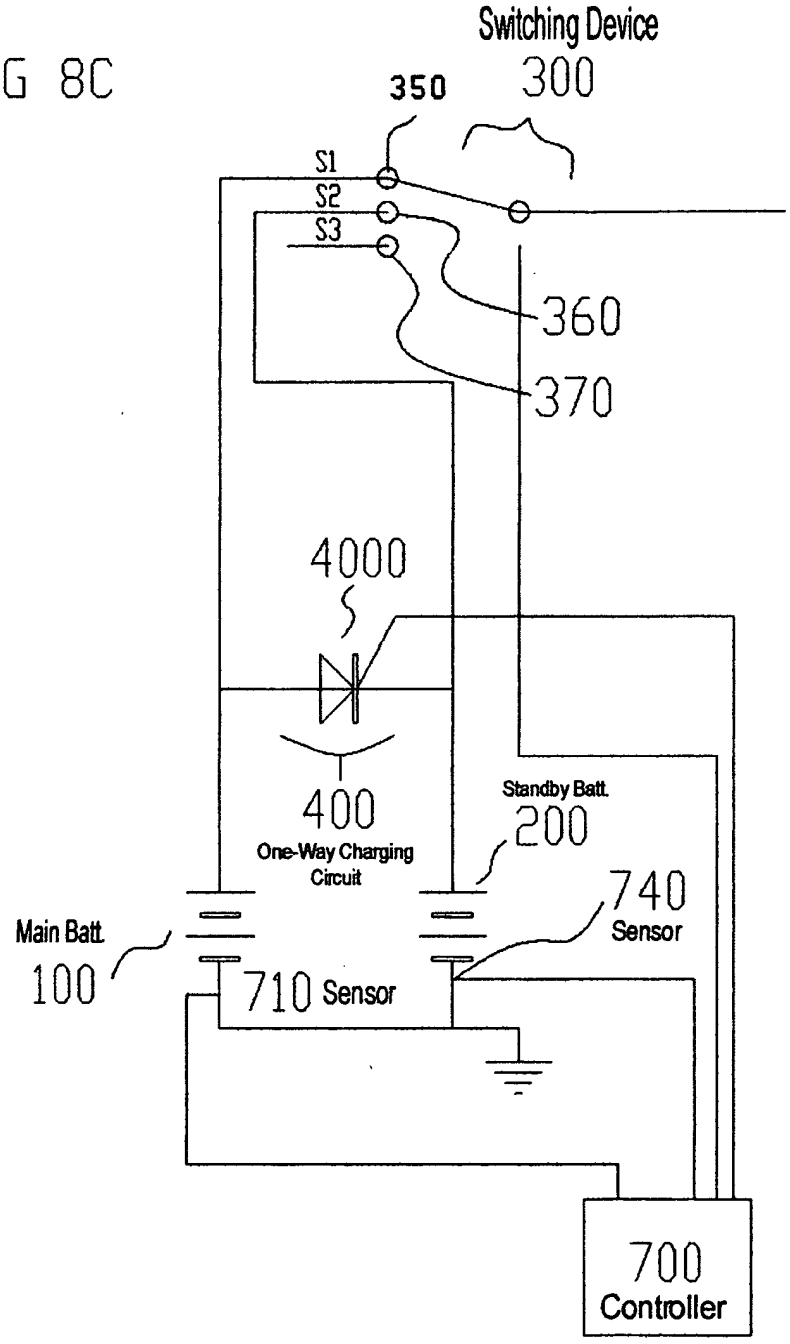

Switching Device
350
300
S1
S2
S3
360
370
4000
400
One-Way Charging Circuit
Standby Batt.
200
740
Sensor
Main Batt.
100
710 Sensor
700
Controller

FIG 9

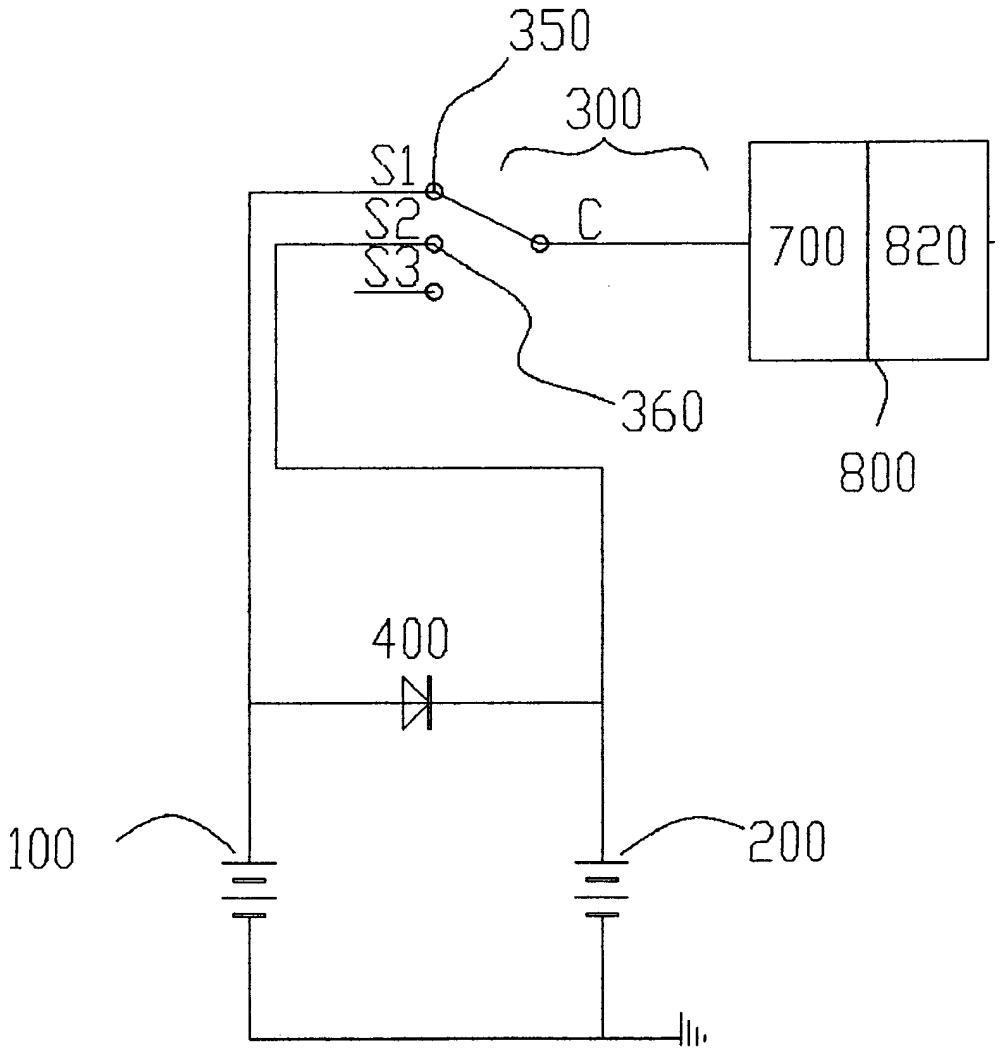


FIG 10A

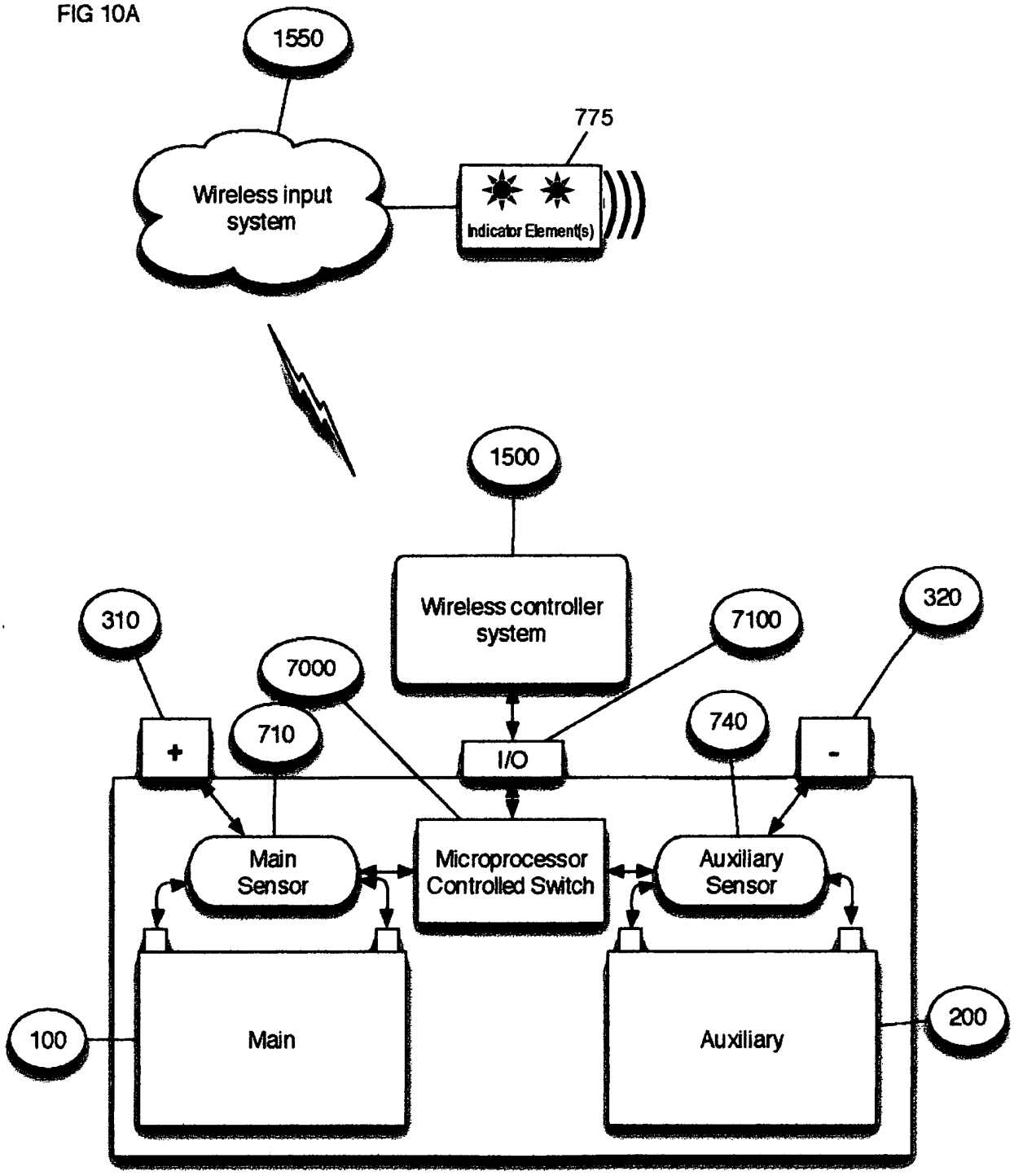

1550
775
Wireless input system
Indicator Element(s)
1500
Wireless controller system
310
7000
7100
320
710
740
+
I/O
-
Main Sensor
Microprocessor Controlled Switch
Auxiliary Sensor
100
Main
Auxiliary
200

FIG 10B

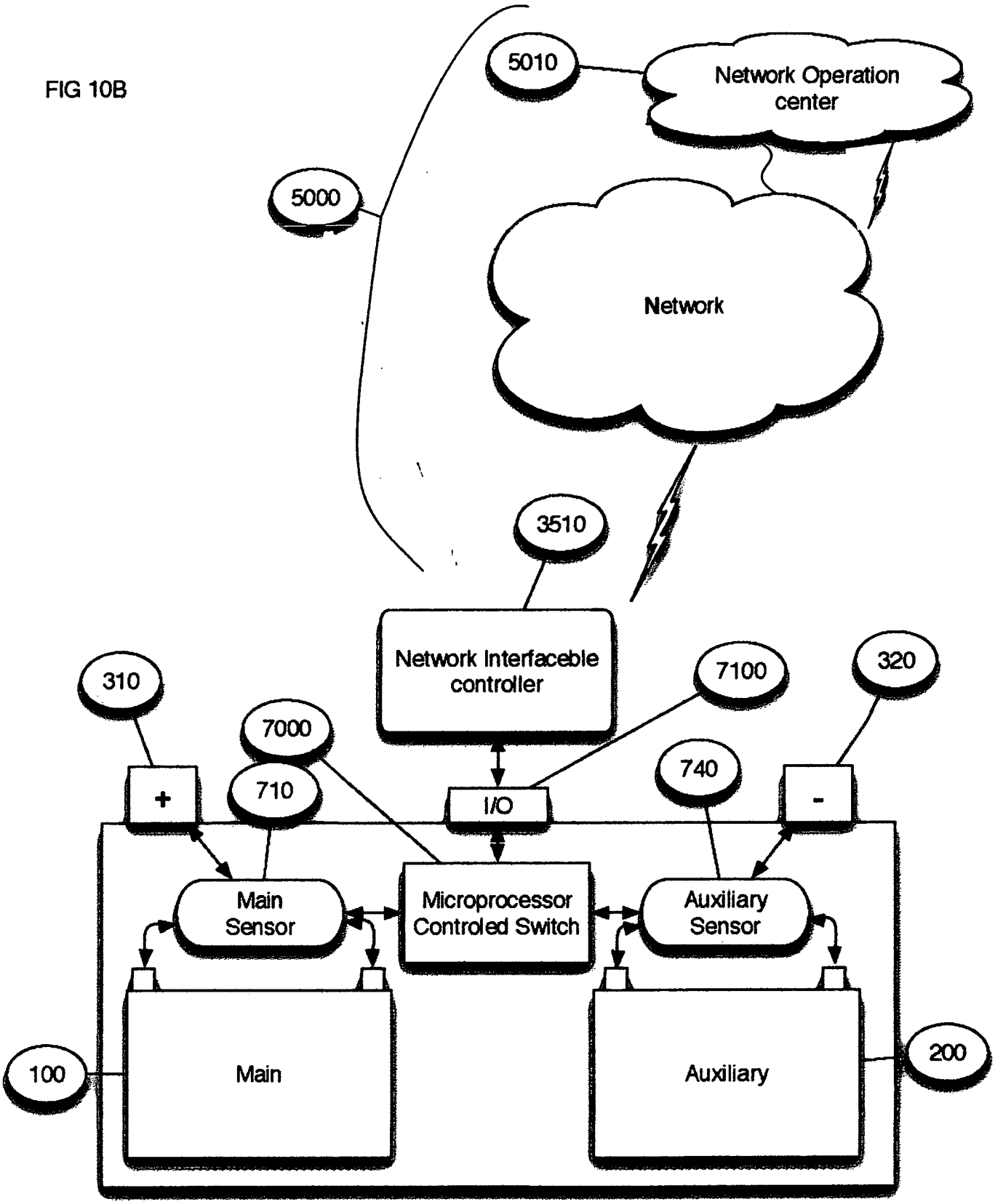

5010
Network Operation center
5000
Network
3510
Network Interfaceble controller
310
7000
710
7100
320
740
+
I/O
-
Main Sensor
Microprocessor Controled Switch
Auxiliary Sensor
100
Main
Auxiliary
200

FIG11A

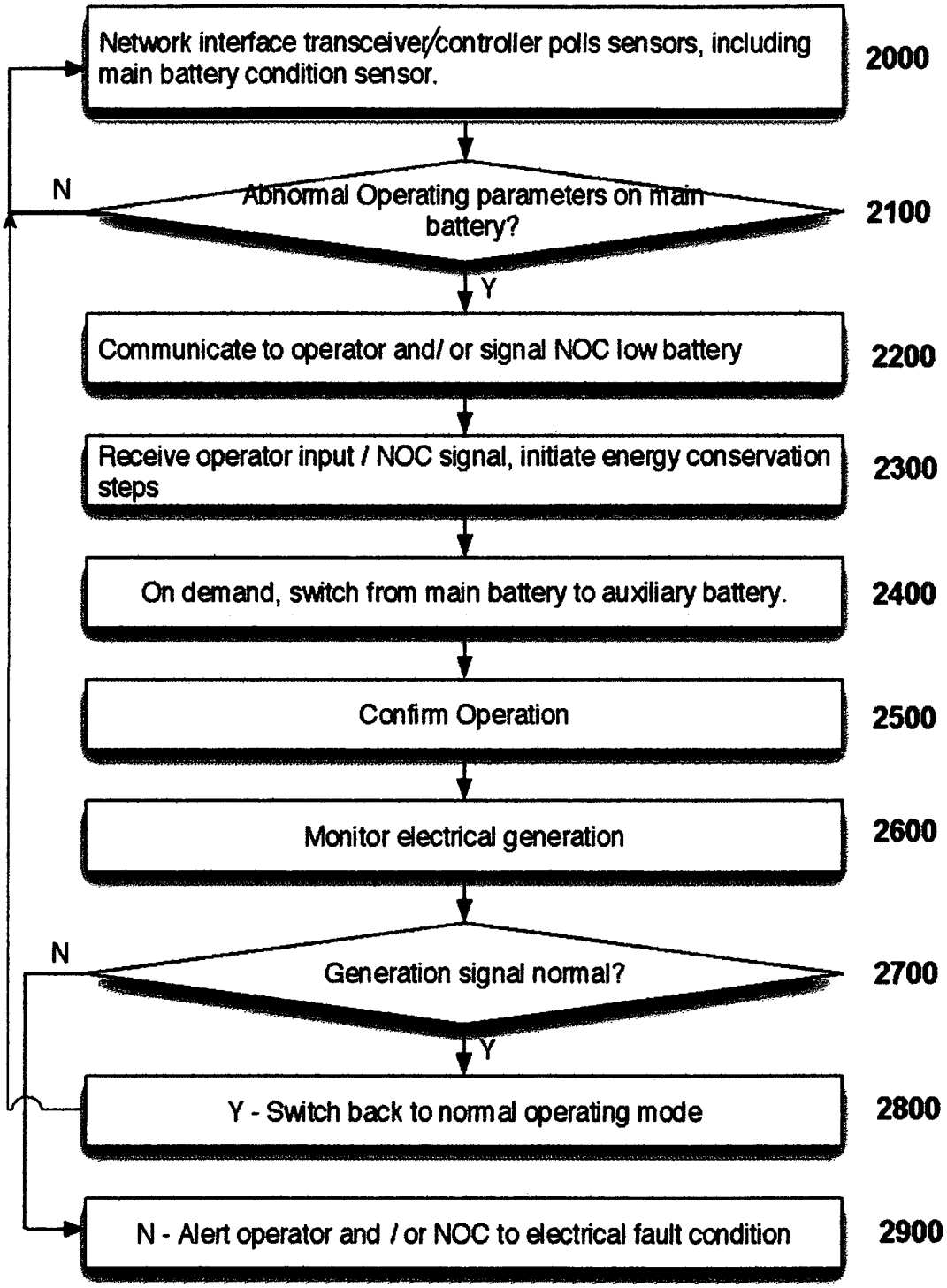
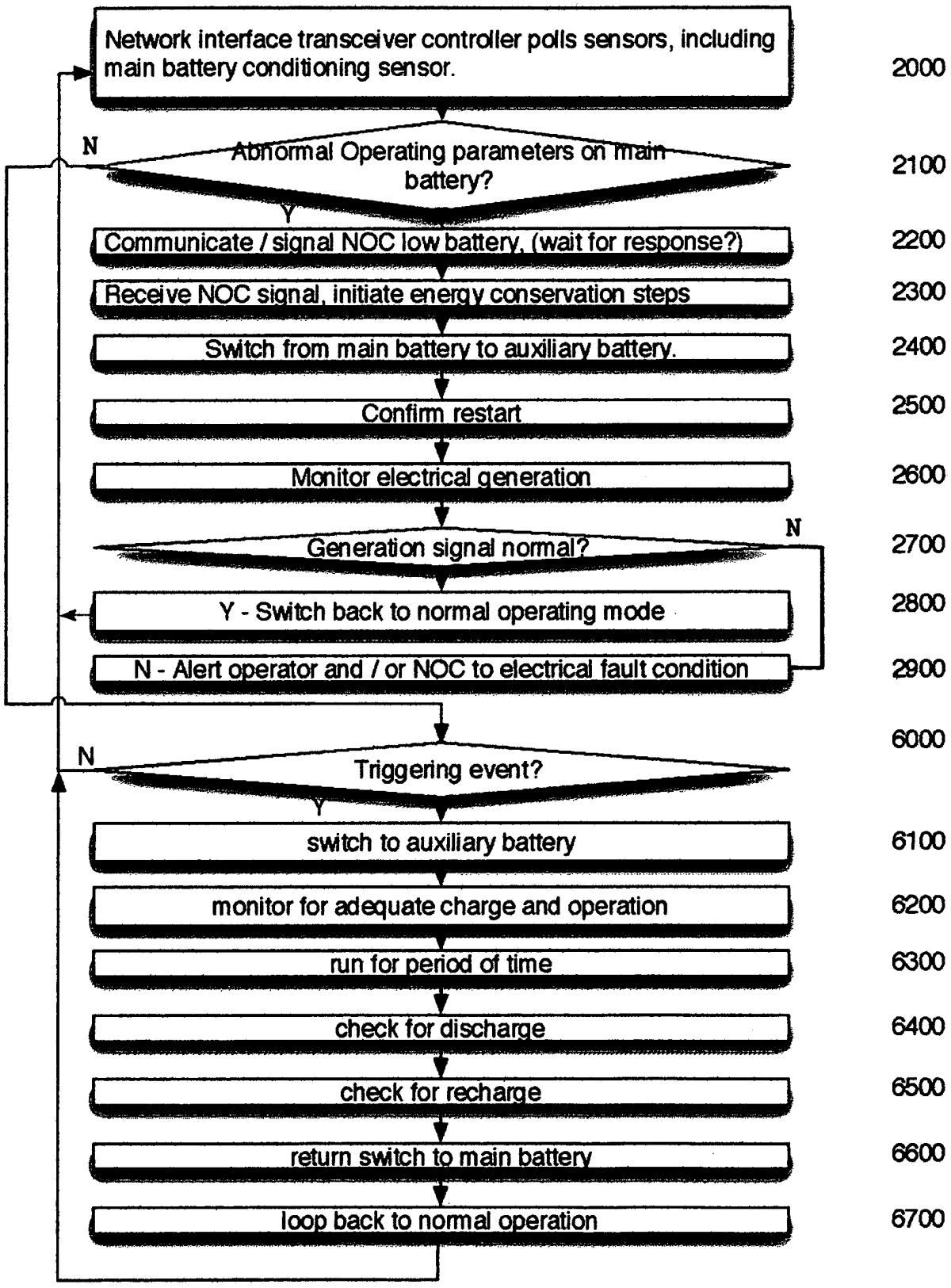

Network interface transceiver/controller polls sensors, including main battery condition sensor.
2000
N
Abnormal Operating parameters on main battery?
2100
Y
Communicate to operator and/ or signal NOC low battery
2200
Receive operator input / NOC signal, initiate energy conservation steps
2300
On demand, switch from main battery to auxiliary battery.
2400
Confirm Operation
2500
Monitor electrical generation
2600
N
Generation signal normal?
2700
Y
Y - Switch back to normal operating mode
2800
N - Alert operator and / or NOC to electrical fault condition
2900

FIG 11B


Network interface transceiver controller polls sensors, including main battery conditioning sensor.
2000
N
Abnormal Operating parameters on main battery?
2100
Y
Communicate / signal NOC low battery, (wait for response?)
2200
Receive NOC signal, initiate energy conservation steps
2300
Switch from main battery to auxiliary battery.
2400
Confirm restart
2500
Monitor electrical generation
2600
N
Generation signal normal?
2700
Y - Switch back to normal operating mode
2800
N - Alert operator and / or NOC to electrical fault condition
2900
6000
N
Triggering event?
Y
switch to auxiliary battery
6100
monitor for adequate charge and operation
6200
run for period of time
6300
check for discharge
6400
check for recharge
6500
return switch to main battery
6600
loop back to normal operation
6700